

REFLECTOR COMMUNICATIONS CHANNEL FOR AUTOMATIC PROTECTION SWITCHING

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5 ABSTRACT OF THE DISCLOSURE

An apparatus and method for a communications network including at least one interface circuit reads frame data received from the communications network and writes frame data to be transmitted over the communications network, the frame data including a plurality of transport overhead fields. The apparatus includes signature logic coupled to the interface circuit, the signature logic identifying signature data and writing the signature data into transport overhead fields in an outgoing frame.

10 Reflector logic coupled to the interface circuit copies data from one of the received transport overhead fields, the copied data being placed into a transport overhead field in the outgoing frame, the copied data including the received signature data. The

15 interface circuit compares the copied data to earlier received frame data from the communications network, the determination of a mismatch identifying a transition requiring an update of at least one routing table. The data is used to determine configuration compatibility between interfaces and among a plurality of tributary interfaces and to eliminate dependence on multiplexers that transmit to routers with

20 protect circuits according to protection switching protocols. A method for a communications network includes transmitting signature data in a transport overhead field, the data identifying one of interfaces in the local routers, returning the data to the local router, and configuring a communications relationship using the data. The method includes using the data to determine which is an active interface and to

25 determine whether to update at least one routing table and using the data to configure the interface circuits.